



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,549	10/28/2003	Rycharde Jeffery Hawkes	30018432-2	5467

7590 10/18/2006

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
----------	--------------

2123

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/695,549

Applicant(s)

HAWKES ET AL.

Examiner

Thomas H. Stevens

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/28/2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-14 were examined.

Information Disclosure Statement

2. The listing of references in the specification (i.e., page 16, lines 5-12) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

3. The disclosure is objected to because of the following informalities: "Statement of the Invention" should be changed to "Summary of the Invention".

Appropriate correction is required.

Claim Interpretation

4. Office personnel are to give claims their "**broadest reasonable interpretation**" in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See *also In re Zletz, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow") The reason is simply that during patent prosecution when claims can be amended, ambiguities should

Art Unit: 2123

be recognized, scope and breadth of language explored, and clarification imposed

An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process. The Office interprets the various "versions" as the following from the disclosure paragraph [0010]: *a first version for use in one of said different complexities of simulation, and a second version for use in the other of said different complexities of simulation.*

Claim Objections

5. Claim 9 recites the limitation "the activities" in column 1 and "the model" in column 19 which could pose an antecedent problem. Suggestion: "activities", "a model".

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al., (US Patent 5,678,013; hereafter Smith). Smith discloses a method and apparatus for constructing subroutines to define the behavior of simulation objects (abstract).

Claim 9. A method of simulating the activities of a plurality of creatures (Smith: column 31, line 14), the method comprising utilizing at least two modes of simulation: a first

Art Unit: 2123

mode arranged to simulate the activities of all of said creatures (Smith: column 31, line 14); and a second mode arranged to simulate the activity of at least one of said creatures (Smith: column 31, line 14) at a more detailed level than said first mode; wherein the model of a creature (Smith: column 31, line 14) simulated in both modes of simulation comprises at least two portions: a first portion (Smith: column 6, lines 42-43) which contains functions arranged for use in both of said modes of simulation; and a second portion (Smith: column 6, lines 42-43) comprising two alternative versions, a first version for use in said first mode of simulation, and a second version for use in the second mode.

Claim Rejections - 35 USC § 103

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2123

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-8,10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi, titled, "Artificial Neural Development for Pulsed Neural Network Design--A Simulation Experiment on Animat's Cognitive Map Genesis" (hereafter Atsumi) in view of Smith.

Atsumi teaches an artificial neural network (abstract) with different simulation complexities (pg.188, right column, 2nd paragraph, lines 10-13) but fails to teach first and second portions.

Smith teaches graphical rewrite rules (title) with first and second portions (column 6, lines 42-43). Both pieces of art are analogous since they both teach simulation of creatures.

Therefore it would have been obvious to one having ordinary skill in the art at the time of invention was made to utilize the subroutines of Smith in the neural network design of Atsumi because Smith teaches a method to modify object properties and behavior rules (Smith: column 1, lines 42-44).

Claim 1. A method of simulating a creature (Smith: column 31, line 14) for use in two different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation), the method comprising utilizing a model of the creature (Smith: column 31, line 14) that comprises at least two portions, a first portion (Smith: column 6, lines 42-43) which contains functions for use in both of said different

Art Unit: 2123

complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation); and a second portion (Smith: column 6, lines 42-43) comprising two alternative versions, a first version for use in one of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation), and a second version for use in the other of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation).

Claim 2. A method as claimed in claim 1, wherein said first portion (Smith: column 6, lines 42-43) comprises a behavior (Atsumi: pg.197, right column, lines 18-20) selection mechanism arranged to select the behavior (Atsumi: pg.197, right column, lines 18-20) of said creature (Smith: column 31, line 14).

Claim 3. A method as claimed in claim 2, wherein said behavior (Atsumi: pg.197, right column, lines 18-20) selection mechanism is arranged to select the behavior (Atsumi: pg.197, right column, lines 18-20) based upon at least one of: the current behavioral (Atsumi: pg.197, right column, lines 18-20) state; one or more internal state variables (Atsumi: pg.189, left column, 2nd paragraph, lines 13-14) of the creature (Smith: column 31, line 14); the environment surrounding the creature (Smith: column 31, line 14); one or more sensory inputs to said creature (Smith: column 31, line 14).

Claim 4. A method as claimed in claim 2, wherein said behavior (Atsumi: pg.197, right

Art Unit: 2123

column, lines 18-20) selection mechanism consists of a set of mutually exclusive behavioral (Atsumi: pg.197, right column, lines 18-20) states.

Claim 5. A method as claimed in claim 1, wherein the second version is for use in the less complex of the simulations, and is arranged to approximate the functionality of the first version (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation).

Claim 6. A method as claimed in claim 1, wherein the first version (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation) utilizes a neural network (Atsumi: pg.189, left column, 2nd paragraph, line 2).

Claim 7. A method as claimed in claim 2, wherein said second portion (Smith: column 6, lines 42-43) is arranged to execute the selected behavior (Atsumi: pg.197, right column, lines 18-20).

Claim 8. A method as claimed in claim 1, wherein the first version utilizes a three dimensional physical simulation (Atsumi: pg. 189, figure 1) of the animat (Atsumi: abstract, line 14), and the second version (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation) utilizes a parameterized model of the animat (Atsumi: abstract, line 14) to approximate movement.

Art Unit: 2123

Claim 10. A method of simulating a process at two different levels of complexity (Atsumi: pg. 194, table 1, various nerve areas representing levels of complexity), the method comprising utilizing a model that comprises at least two portions, a first portion (Smith: column 6, lines 42-43) which contains functions for use in both of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation); and a second portion (Smith: column 6, lines 42-43) comprising two alternative versions, a first version for use in one of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation), and a second version for use in the other of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation).

Claim 11. A method as claimed in claim 10, further comprising evaluating one or more conditions to determine a result of a rule for selecting which of the two alternative versions of the second portion (Smith: column 6, lines 42-43) to use in simulating the process.

Claim 12. A method as claimed in claim 10, wherein the second version is for use in the less complex of the simulations, and is arranged to approximate the functionality of the first version (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation).

Art Unit: 2123

Claim 13. A method as claimed in claim 10, wherein the first version utilizes a neural network (Atsumi: pg.189, left column, 2nd paragraph, line 2).

Claim 14. A simulator device arranged to simulate a creature (Smith: column 31, line 14) in two different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation); the device being arranged to utilise a model of the creature (Smith: column 31, line 14) that comprises at least two portions; a first portion (Smith: column 6, lines 42-43) which contains functions used in both of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation); and a second portion (Smith: column 6, lines 42-43) comprising two alternative versions, a first version used in one of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation), and second version used in the other of said different complexities of simulation (Atsumi: pg.188, right column, 2nd paragraph, lines 10-13 with claim interpretation).

Citation to Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Guillot et al., "Computer Simulations of Adaptive Behavior in Animals" 1994, IEEE, Pg. 122-131: teaches various architectures of animats.
- DeMarse et al., " The Neurally Controlled Animat: Biological Brains Action with Simulated Bodies" Nov. 2001 Computer Science and Engineering Vol.11 Abstract, pg.1-3: teaches a hybrid real-time processing engine for living and electronic simulated components.

- EP 871137 A1 European patent teaches a method to simulate devices for forstoring a virtual creature.


Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Paul Rodriguez 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

October 3, 2006


PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100
10/16/06

TS